

REMARKS

The present amendment is submitted in response to the Office Action dated October 22, 2003, which set a three-month period for response, making this amendment due by January 22, 2004.

Claims 16-30 are pending in this application.

In the Office Action, claims 16, 23, 24, and 26 were objected to for various informalities. Claims 16-25 and 27-30 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,122,909 to Murphy et al. Claims 16 and 26 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy et al in view of EP 758713 A1 to Murachi et al.

In the present amendment, claims 16, 23, 24, and 26 were amended to address the stated formal objections and to address other informalities not specifically noted in the Office Action.

To more clearly define the present invention over the cited references, claim 16 was amended to define that the delivery of the hydrogen is performed in a direction of flow of the exhaust gas at a location upstream of an oxidation catalytic converter and a particle filter of an exhaust-gas line. Apparatus claim 27 was amended similarly to method claim 16.

Claim 19 was amended to define that a quantity of hydrogen in the tank is dimensioned so that it suffices to heat and regenerate the NOx storage catalytic converter disposed downstream of a particle filter. Support for this feature can be found in the specification on page 7, last paragraph, where it is described that a

second exemplary embodiment contains an oxidation catalytic converter 3 installed upstream of the CRT particle filter 8.

All other structure details of the apparatus shown in Figure 2 are of the same type as shown in Figure 1. Figure 1 shows a NOx catalytic converter 4 downstream of the oxidation catalyst. This converter is not shown in Figure 2 because of space considerations.

The Applicants respectfully submit that the amended claims define a patentably distinct set of features neither shown nor suggested by the cited references.

In the Office Action, the Examiner states that regarding the limitation of claim 16 relating to "performing the delivery of the hydrogen in a direction of flow of the exhaust gas at a location...upstream of an oxidation catalytic converter and a particle filter of an exhaust-gas line", the Murphy et al reference discloses that the method can be used in diesel engines. The Examiner admits that Murphy fails to disclose that the diesel engine exhaust-gas line comprises a particle filter. The Examiner relies on Murachi et al to show that a diesel engine exhaust-gas line can contain an oxidation catalyst, a particle filter, and an NOx storage catalytic converter. The deduction is drawn that it would be obvious to one of ordinary skill in the art to provide a particle filter downstream of an oxidation catalyst in an exhaust-gas line and to deliver hydrogen to a diesel engine at a location upstream of the oxidation catalyst.

It is true that Murachi shows an exhaust-gas system comprising a diesel engine and an exhaust-gas line and a particle filter. It is also true that Murphy et

al teaches that his method of delivering hydrogen to an exhaust-gas line also can be used in diesel systems.

The practitioner of ordinary skill in the art would learn upon reading Murphy et al that delivering hydrogen to diesel systems is possible. With regard to Murachi, the practitioner, however, would also learn that in the case when a particle filter exists in the exhaust-gas line, this delivery does not work. Instead of the delivery of hydrogen or another reducing agent as fuel, etc., to the exhaust gas line, the practitioner would learn that the best way is to add fuel directly to the diesel engine, to close the intake shutter valve to a predetermined degree of opening and additionally, to use an electric heater for heating the exhaust gas reaching the oxidizing catalyst (see Murachi, column 9, lines 31-44).

Therefore, if the practitioner combined the documents as proposed, a combination of both exhaust-gas systems is simply not possible. Additionally, one of ordinary skill in the art would not find any suggestion of delivering hydrogen to an exhaust-gas line as a possibility for increasing the exhaust-gas temperature in the case of exhaust-gas systems containing particle filters.

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under Section 103, teachings of references can be combined only if there is some suggestion or incentive to do so. **ACS Hosp. Sys., Inc. v. Montefiore Hosp.**, 221 USPQ 929, 932, 933 (Fed. Cir. 1984).

Here, combining the references as proposed would not produce the claimed invention and the practitioner would receive no suggestion or incentive to

combine these references, since the combination would produce an unworkable product.

For the reasons set forth above, the Applicants respectfully submit that claims 16-30 are patentable over the cited references. The Applicants further request withdrawal of the rejections under 35 U.S.C. 102 and 103 and reconsideration of the claims as herein amended.

In light of the foregoing arguments in support of patentability, the Applicants respectfully submit that this application stands in condition for allowance. Action to this end is courteously solicited.

Should the Examiner have any further comments or suggestions, the undersigned would very much welcome a telephone call in order to discuss appropriate claim language that will place the application into condition for allowance.

Respectfully submitted,



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